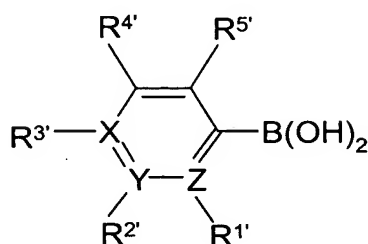
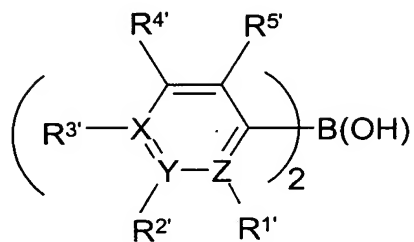


Claims:

1. A process for preparing boronic acids of the formula (I) and borinic acids of the formula (II),



(I)



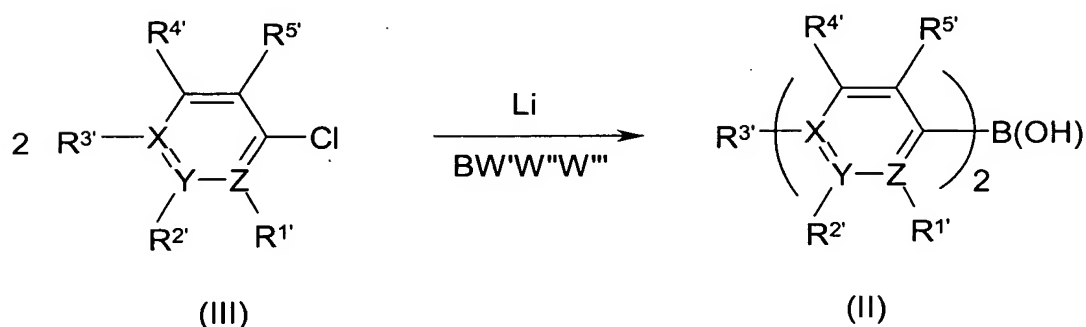
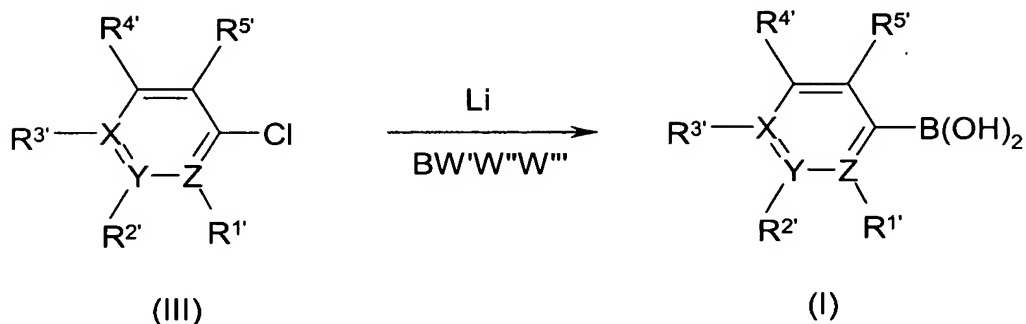
(II)

where the substituents  $R^{1'}$  to  $R^{5'}$  are each, independently of one another, H,  $CH_3$ , straight-chain or branched  $C_1$ - $C_8$ -alkyl, F,  $C_nH_{2n+1-f}F_f$  where  $n = 1$  to 8 carbon atoms and  $f = 1$  to  $2n+1$  fluorine atoms,  $CH(OC_1-C_5\text{-alkyl})_2$ ,  $C(C_1-C_5\text{-alkyl})$ ,  $(OC_1-C_5\text{-alkyl})$ ,  $CH_2(OC_1-C_5\text{-alkyl})$ ,  $CH(CH_3)(OC_1-C_5\text{-alkyl})$ ,  $C_1$ - $C_5$ -alkoxy,  $N(C_1-C_5\text{-alkyl})_2$ , phenyl, substituted phenyl, aryl, heteroaryl,  $S(C_1-C_5\text{-alkyl})$ ,  $Pphenyl_2$ ,  $Paryl_2$  or  $P(C_1-C_5\text{-alkyl})_2$  and

the symbols X, Y and Z are each, independently of one another, carbon or  $XR^{3'}$ ,  $YR^{2'}$  and/or  $ZR^{1'}$  are/is nitrogen or  $XR^{3'}$  and  $YR^{2'}$  are together oxygen or  $XR^{3'}$  and  $YR^{2'}$  are together  $N(C_1-C_5\text{-alkyl})$  or  $N(SiMe_3)$  or  $XR^{3'}$  and  $YR^{2'}$  are together sulfur,

by reaction of chloroaromatics of the formula (III) with lithium metal and boron compounds  $BW'W''W'''$ , where  $W'$ ,  $W''$  and  $W'''$  are each, independently of one another,  $C_1$ - $C_6$ -alkoxy, fluorine, chlorine, bromine, iodine,  $N(C_1-C_6\text{-alkyl})_2$  or  $S(C_1-C_5\text{-alkyl})$ ,

in a solvent at temperatures in the range from  $-100$  to  $80^{\circ}\text{C}$ .



2. The process as claimed in claim 1, wherein the lithium is used in the form of dispersions, powder, turnings or sand.
3. The process as claimed in claim 1, wherein the solvent is selected from the following group: triethylamine, diethyl ether, tetrahydrofuran, di-n-butyl ether, tert.-butyl methyl ether, xylene, toluene, toluene/tetrahydrofuran mixtures, anisole and diisopropyl ether, and solvent mixtures comprising one of the above solvents.
4. The process as claimed in claim 1, wherein boronic acids of the formula (I) are prepared using from 0.96 to 1.30 equivalents of the chloro compound (III) per mol of boron compound  $\text{BW}^{\prime}\text{W}^{\prime\prime}\text{W}^{\prime\prime\prime}$ .

5. The process as claimed in claim 1, wherein borinic acids of the formula (II) are prepared using from 2.02 to 2.85 equivalents of the chloro compound (III) per mol of boron compound BW'W''W'''.
6. The process as claimed in claim 1, wherein the boron compound of the formula BW'W''W''' is a trialkoxyborane,  $\text{BF}_3 \cdot \text{OR}_2$  (where  $\text{R} = \text{CH}_3, \text{C}_2\text{H}_5, \text{C}_3\text{H}_7, \text{C}_4\text{H}_9$ ),  $\text{BF}_3 \cdot \text{THF}$ ,  $\text{BCl}_3$  or  $\text{BBr}_3$ ,  $\text{Cl}_2\text{B}(\text{OR})$  or  $\text{BrB}(\text{NMe}_2)_2$ , where R is as defined above.
7. The process as claimed in claim 1, wherein the reaction of the chloroaromatic with the lithium metal to form a lithioaromatic and the reaction of the lithioaromatic with the boron compound BW'W''W''' are carried out in one reaction vessel at the same or essentially the same temperature.
8. The process as claimed in claim 1, wherein the chloroaromatic is reacted simultaneously with lithium and the boron compound BW'W''W''' while stirring.
9. The process as claimed in claim 1, wherein the preparation of a lithioaromatic and the reaction with a boron compound take place in two separate reaction vessels and the two reactions are carried out at the same temperature or an only slightly different temperature ( $< 50 \text{ K}$  difference).
10. The process as claimed in claim 1, wherein the reaction solution obtained is subsequently hydrolyzed and worked up by appropriate methods.

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